

Sequence Listing

<110> Baker, Kevin
Botstein, David
Eaton, Dan
Ferrara, Napoleone
Filvaroff, Ellen
Gerritsen, Mary
Goddard, Audrey
Godowski, Paul
Grimaldi, Christopher
Gurney, Austin
Hillan, Kenneth
Kljavin, Ivar
Napier, Mary
Roy, Margaret
Tumas, Daniel
Wood, William

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35 40 45
Asp Asp Asp Asp Asp Glu Asp Asn Ser Leu Phe Pro Thr Arg Glu
50 55 60
Pro Arg Ser His Phe Phe Pro Phe Asp Leu Phe Pro Met Cys Pro
65 70 75
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80 85 90
Gly Leu Thr Ser Val Pro Thr Asn Ile Pro Phe Asp Thr Arg Met
95 100 105
Leu Asp Leu Gln Asn Asn Lys Ile Lys Glu Ile Lys Glu Asn Asp
110 115 120
Phe Lys Gly Leu Thr Ser Leu Tyr Gly Leu Ile Leu Asn Asn Asn
125 130 135
Lys Leu Thr Lys Ile His Pro Lys Ala Phe Leu Thr Thr Lys Lys
140 145 150
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155 160 165
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170 175 180
Lys Val Lys Lys Ile Gln Lys Asp Thr Phe Lys Gly Met Asn Ala
185 190 195
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200 205 210

Ile Glu Pro Gly Ala Phe Glu Gly Val Thr Val Phe His Ile Arg
215 220 225
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245 250 255
Glu Leu Glu Asp Phe Lys Arg Tyr Lys Glu Leu Gln Arg Leu Gly
260 265 270
Leu Gly Asn Asn Lys Ile Thr Asp Ile Glu Asn Gly Ser Leu Ala
275 280 285
Asn Ile Pro Arg Val Arg Glu Ile His Leu Glu Asn Asn Lys Leu
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335 340 345
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50 55 60
Asp Glu Thr Trp His Pro Asp Leu Gly Gln Pro Phe Gly Val Met
65 70 75

Arg Cys Val Leu Cys Ala Cys Glu Ala Pro Gln Trp Gly Arg Arg
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 Thr Arg Gly Pro Gly Arg Val Ser Cys Lys Asn Ile Lys Pro Glu
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 Cys Pro Thr Pro Ala Cys Gly Gln Pro Arg Gln Leu Pro Gly His
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 Cys Cys Gln Thr Cys Pro Gln Glu Arg Ser Ser Ser Glu Arg Gln
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 Pro Ser Gly Leu Ser Phe Glu Tyr Pro Arg Asp Pro Glu His Arg
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 185 190 195
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 350 355 360
 Glu Val Leu Pro Asn Leu Thr Val Gln Glu Met Asp Trp Leu Val

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380	385	390
Leu Arg Ile Ser Gly His Ile Ala Ala Arg Lys Ser Cys Asp Val		
395	400	405
Leu Gln Ser Val Leu Cys Gly Ala Asp Ala Leu Ile Pro Val Gln		
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425	430	435
Ser Leu Ile Tyr Gln Val Gln Val Val Gly Thr Ser Ser Glu Val		
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455	460	465
Thr Val Leu Cys His Met Ala Gly Leu Gln Pro Gly Gly His Thr		
470	475	480
Ala Val Gly Ile Cys Pro Gly Leu Gly Ala Arg Gly Ala His Met		
485	490	495
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Gly His Ser Ala Arg His Asp Thr Leu Pro Val Pro Leu Ala Gly		
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Ala Leu Val Leu Pro Pro Val Lys Ser Gln Ala Ala Gly His Ala		
545	550	555
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Gly Phe Tyr Gly Ser Glu Ala Gln Gly Val Val Lys Asp Leu Glu		
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Ile Thr Thr Lys Gly Ser Pro Arg Gly Glu Leu Arg Gly Gln Val		
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His Ile Ala Asn Gln Cys Glu Val Gly Gly Leu Arg Leu Glu Ala		
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 680 685 690
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 695 700 705
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 710 715 720
 Asn Tyr Asp Pro Leu Cys Ser Leu Cys Thr Cys Gln Arg Arg Thr
 725 730 735
 Val Ile Cys Asp Pro Val Val Cys Pro Pro Pro Ser Cys Pro His
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cttaactctg gtggtaagg tcagcacctg tgcgcgggg gagagtcacg 1050

Yeast genome

caaatgactt ggagtgttca ggaaaaggaa aatgcaccac gaagccgtca 1100
gaggcaactt ttcctgtac ctgtgaggag cagtacgtgg gtactttctg 1150
tgaagaatac gatgcttgcc agaggaaacc ttgccaaaac aacgogagct 1200
gtattgatgc aaatgaaaaag caagatggga gcaatttcac ctgtgttgc 1250
cttcctgggtt atactggaga gcttgccag tccaagattg attactgcat 1300
cctagaccca tgcagaaaatg gagcaacatg catttccagt ctcagtggat 1350
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cctgtgccc a ctttattgac ttctgtgccc tcagccctg tgctcatggc 1550
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ccatggcctc tactgtgagg aggaatataa tgagtgcctc tccgctccat 1650
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tgcctggcag aatacaaagg aacacactgt gaattgtaca aggatccctg 1750
cgctaacgta agctgtctga acggagccac ctgtgacagc gacggcctga 1800
atggcacgtg catctgtgca cccgggtta caggtgaaga gtgcgacatt 1850
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ggaccagccc aatggttata actgccactg cccgcatggt tgggtggag 1950
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ctcaccaaca tgccacggca ctccctctac atcatcattt gagccctctg 2050
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tcagccgcat tgaataccag gtttttcca ggccagccta tgaggagttc 2150
tacaactgcc gcagcatcga cagcgagtcc agcaatgcca ttgcattccat 2200
ccggcatgcc aggtttggaa agaaatcccg gcctgcaatg tatgtatgtga 2250
ccccatcgc ctatgaagat tacagtccctg atgacaaaacc cttggtcaca 2300
ctgattaaaa ctaaagattt gtaatcttt tttggattat tttcaaaaa 2350
gatgagatac tacactcatt taaatatttt taagaaaata aaaagctaa 2400
gaaatttaaa atgcttagctg ctcaagagtt ttcagtagaa tatttaagaa 2450
ctaattttct gcagctttta gtttggaaaa aatattttaa aaacaaaatt 2500

Homologous protein

tgtgaaacct atagacgatg ttttaatgta ctttcagctc tctaaactgt 2550
gtgcttctac tagtgtgtgc tctttcaact gtagacacta tcacgagacc 2600
cagattaatt tctgtggttg ttacagaata agtctaatac aggagaagtt 2650
tctgtttgac gtttgagtgc cggcttctg agtagagttt ggaaaaccac 2700
gtaacgtac atatgatgta taatagagta tacccgttac taaaaaagaa 2750
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gttttgc tttcgtaac agtcgtcgaa ctaggcctca aaaacatacg 2950
taacgaaaag gccttagcgag gcaaattctg attgatttga atctatattt 3000
ttctttaaaa agtcaagggt tctatattgtt gagtaaattt aatttacatt 3050
tgagttgttt gttgctaaga ggtatgtttt gtaagagagt actggttcct 3100
tcagtagtga gtatctca tagtgcagct ttatcttcc ccaggatgtt 3150
tttgcgttgc tatttgcattt atatgtgcctt cttctgattt ttgcataattt 3200
ccaaccatat tgaataaaatg tgatcaagtc a 3231

<210> 15
<211> 737
<212> PRT
<213> Homo Sapien

<400> 15
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1 5 10 15
Ala Leu Ala Leu Leu Leu Leu Leu Gly Ala Gly Pro Arg Gly
20 25 30
Ser Ser Leu Ala Asn Pro Val Pro Ala Ala Pro Leu Ser Ala Pro
35 40 45
Gly Pro Cys Ala Ala Gln Pro Cys Arg Asn Gly Gly Val Cys Thr
50 55 60
Ser Arg Pro Glu Pro Asp Pro Gln His Pro Ala Pro Ala Gly Glu
65 70 75
Pro Gly Tyr Ser Cys Thr Cys Pro Ala Gly Ile Ser Gly Ala Asn
80 85 90
Cys Gln Leu Val Ala Asp Pro Cys Ala Ser Asn Pro Cys His His
95 100 105
Gly Asn Cys Ser Ser Ser Ser Ser Ser Ser Asp Gly Tyr Leu

110	115	120
Cys Ile Cys Asn Glu Gly Tyr Glu Gly Pro Asn Cys Glu Gln Ala		
125	130	135
Leu Pro Ser Leu Pro Ala Thr Gly Trp Thr Glu Ser Met Ala Pro		
140	145	150
Arg Gln Leu Gln Pro Val Pro Ala Thr Gln Glu Pro Asp Lys Ile		
155	160	165
Leu Pro Arg Ser Gln Ala Thr Val Thr Leu Pro Thr Trp Gln Pro		
170	175	180
Lys Thr Gly Gln Lys Val Val Glu Met Lys Trp Asp Gln Val Glu		
185	190	195
Val Ile Pro Asp Ile Ala Cys Gly Asn Ala Ser Ser Asn Ser Ser		
200	205	210
Ala Gly Gly Arg Leu Val Ser Phe Glu Val Pro Gln Asn Thr Ser		
215	220	225
Val Lys Ile Arg Gln Asp Ala Thr Ala Ser Leu Ile Leu Leu Trp		
230	235	240
Lys Val Thr Ala Thr Gly Phe Gln Gln Cys Ser Leu Ile Asp Gly		
245	250	255
Arg Ser Val Thr Pro Leu Gln Ala Ser Gly Gly Leu Val Leu Leu		
260	265	270
Glu Glu Met Leu Ala Leu Gly Asn Asn His Phe Ile Gly Phe Val		
275	280	285
Asn Asp Ser Val Thr Lys Ser Ile Val Ala Leu Arg Leu Thr Leu		
290	295	300
Val Val Lys Val Ser Thr Cys Val Pro Gly Glu Ser His Ala Asn		
305	310	315
Asp Leu Glu Cys Ser Gly Lys Gly Lys Cys Thr Thr Lys Pro Ser		
320	325	330
Glu Ala Thr Phe Ser Cys Thr Cys Glu Glu Gln Tyr Val Gly Thr		
335	340	345
Phe Cys Glu Glu Tyr Asp Ala Cys Gln Arg Lys Pro Cys Gln Asn		
350	355	360
Asn Ala Ser Cys Ile Asp Ala Asn Glu Lys Gln Asp Gly Ser Asn		
365	370	375
Phe Thr Cys Val Cys Leu Pro Gly Tyr Thr Gly Glu Leu Cys Gln		
380	385	390
Ser Lys Ile Asp Tyr Cys Ile Leu Asp Pro Cys Arg Asn Gly Ala		
395	400	405

Thr Cys Ile Ser Ser Leu Ser Gly Phe Thr Cys Gln Cys Pro Glu
410 415 420

Gly Tyr Phe Gly Ser Ala Cys Glu Glu Lys Val Asp Pro Cys Ala
425 430 435

Ser Ser Pro Cys Gln Asn Asn Gly Thr Cys Tyr Val Asp Gly Val
440 445 450

His Phe Thr Cys Asn Cys Ser Pro Gly Phe Thr Gly Pro Thr Cys
455 460 465

Ala Gln Leu Ile Asp Phe Cys Ala Leu Ser Pro Cys Ala His Gly
470 475 480

Thr Cys Arg Ser Val Gly Thr Ser Tyr Lys Cys Leu Cys Asp Pro
485 490 495

Gly Tyr His Gly Leu Tyr Cys Glu Glu Tyr Asn Glu Cys Leu
500 505 510

Ser Ala Pro Cys Leu Asn Ala Ala Thr Cys Arg Asp Leu Val Asn
515 520 525

Gly Tyr Glu Cys Val Cys Leu Ala Glu Tyr Lys Gly Thr His Cys
530 535 540

Glu Leu Tyr Lys Asp Pro Cys Ala Asn Val Ser Cys Leu Asn Gly
545 550 555

Ala Thr Cys Asp Ser Asp Gly Leu Asn Gly Thr Cys Ile Cys Ala
560 565 570

Pro Gly Phe Thr Gly Glu Glu Cys Asp Ile Asp Ile Asn Glu Cys
575 580 585

Asp Ser Asn Pro Cys His His Gly Gly Ser Cys Leu Asp Gln Pro
590 595 600

Asn Gly Tyr Asn Cys His Cys Pro His Gly Trp Val Gly Ala Asn
605 610 615

Cys Glu Ile His Leu Gln Trp Lys Ser Gly His Met Ala Glu Ser
620 625 630

Leu Thr Asn Met Pro Arg His Ser Leu Tyr Ile Ile Ile Gly Ala
635 640 645

Leu Cys Val Ala Phe Ile Leu Met Leu Ile Ile Leu Ile Val Gly
650 655 660

Ile Cys Arg Ile Ser Arg Ile Glu Tyr Gln Gly Ser Ser Arg Pro
665 670 675

Ala Tyr Glu Glu Phe Tyr Asn Cys Arg Ser Ile Asp Ser Glu Phe
680 685 690

Ser Asn Ala Ile Ala Ser Ile Arg His Ala Arg Phe Gly Lys

695 700 705

Ser Arg Pro Ala Met Tyr Asp Val Ser Pro Ile Ala Tyr Glu Asp
710 715 720

Tyr Ser Pro Asp Asp Lys Pro Leu Val Thr Leu Ile Lys Thr Lys
725 730 735

Asp Leu

<210> 16
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide Probe

<400> 16
tgtaaaaacga cggccagttt aatagacctg caattattaa tct 43

<210> 17
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide Probe

<400> 17
caggaaaacag ctatgaccac ctgcacacacct gcaaattccat t 41

<210> 18
<211> 508
<212> DNA
<213> Homo Sapien

<400> 18
ctctggaagg tcacggccac aggattccaa cagtgtcccc tcatacatgg 50
acgaaagtgt gaccccccott tcaggcttcc agggggactg gtccctcctgg 100
aggagatgct cgccttgggg aataatcaact ttattgggtt tgtgaatgat 150
tctgtgacta agtctattgt ggctttgcgc ttaactctgg tggtaaggt 200
cagcacctgt gtgccggggg agagtcacgc aaatgacttg gagtgttcag 250
gaaaaggaaa atgcaccacg aagccgtcag aggcaacttt ttccctgtacc 300
tgtgaggagc agtacgtggg tactttctgt gaagaatacg atgcttgcca 350
gaggaaacct tgccaaaaca acgcgagctg tattgtatgca aatgaaaagc 400
aagatggag caatttcacc tgtgtttgcc ttccctggta tactggagag 450
ctttgccaac cgaactgaga ttggagcgaa cgacctacac cgaactgaga 500

taggggag 508

<210> 19
<211> 508
<212> DNA
<213> Homo Sapien

<400> 19
ctctggaagg tcacggccac aggattccaa cagtgcctcc tcatacatgg 50
acgaaaagtgt gaccccccott tcagggtttc agggggactg gtcctcctgg 100
aggagatgct cgccttgggg aataatcaact ttattgggtt tgtaatgat 150
tctgtgacta agtctattgt ggctttgcgc ttaactctgg tggtaaggt 200
cagcacctgt gtgccggggg agagtcacgc aaatgacttg gagtgttcag 250
gaaaaggaaa atgcaccacg aagccgtcag aggcaacttt ttcctgtacc 300
tgtgaggagc agtacgtggg tactttctgt gaagaatacg atgcttgcca 350
gagggaaacct tgccaaaaca acgcgagctg tattgatgca aatgaaaagc 400
aagatgggag caatttcacc tgtgtttgcc ttcctggta tactggagag 450
cttgccaaac cgaactgaga ttggagcga cgaacctacac cgaactgaga 500
taggggag 508

<210> 20
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide Probe

<400> 20
ctctggaagg tcacggccac agg 23

<210> 21
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 21
ctcagttcgg ttggcaaagc tctc 24

<210> 22
<211> 69
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 22
cagtgcgtccc tcatacatgg acgaaagtgt gaccccccctt tcaggcgaga 50
gctttgccaa ccgaactga 69

<210> 23
<211> 1520
<212> DNA
<213> Homo Sapien

<400> 23
gctgagtcgt ctgcgtccgtc tgctgctgt ccagcgtgtta acctgtgcct 50
acaccacgcc agggcccccc agagccctca ccacgctggg cgccccca 100
gccccacacca tgccgggcac ctacgctccc tcgaccacac tcagtagtcc 150
cagcacccag ggccctgcaag agcaggcacg ggccctgtatg cggacttcc 200
cgctcggtga cggccacaac gacctgcggc tggctctaag gcaggttac 250
cagaaaggc tacaggatgt taacctgcgc aatttcagct acggccagac 300
cagcctggac aggcttagag atggctctgt gggcgccag ttctggtcag 350
cctatgtgcc atgccagacc caggaccggg atgcctgtcg cctcaccctg 400
gagcagattg acctcatacg ccgcgtgtgt gcctctatt ctgagctgg 450
gcttggtgacc tcggctaaag ctctgaacga cactcagaaa ttggcctgccc 500
tcatcggtgt agagggtggc cactcgctgg acaatagctt ctccatctta 550
cgtaccttct acatgctggg agtgcgtac ctgacgctca cccacacctg 600
caacacaccc tggcagaga gctccgctaa gggcgccac tccttctaca 650
acaacatcag cggcgtact gactttgggt agaagggtggt ggcagaaatg 700
aaccgcctgg gcatgatggt agacttatcc catgtctcag atgctgtggc 750
acggcgccctt ctggaaagtgt cacaggcacc tgtgatcttc tccactcgg 800
ctgccccgggg tgtgtgcaac agtgcgtggc atgttcctga tgacatcctg 850
cagcttctga agaagaacgg tggcgctgt atgggtgttt tgtccatggg 900
agtaatacag tgcaacccat cagccaatgt gtccactgtg gcagatcact 950
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gattatgatg gggccggcaa attccctcag gggctggaaag acgtgtccac 1050
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gaaaaggtac aggaagaaaa caaatggcaa agccccttgg aggacaagtt 1200
cccgatgag cagctgagca gttcctgcca ctccgaccc tcacgtctgc 1250
gtcagagaca gagtctgact tcaggccagg aactcactga gattccata 1300
caactggacag ccaagttacc agccaagtgg tcagtctcag agtcctcccc 1350
ccacatggcc ccagtccttg cagttgtggc cacttccca gtccttattc 1400
tgtggctctg atgacccagt tagtcctgcc agatgtcact gtagcaagcc 1450
acagacaccc cacaaagttc ccctgttgtg caggcacaaa tatttcctga 1500
aataaatgtt ttggacata 1520

<210> 24
<211> 433
<212> PRT
<213> Homo Sapien

<400> 24
Met Pro Gly Thr Tyr Ala Pro Ser Thr Thr Leu Ser Ser Pro Ser
1 5 10 15
Thr Gln Gly Leu Gln Glu Gln Ala Arg Ala Leu Met Arg Asp Phe
20 25 30
Pro Leu Val Asp Gly His Asn Asp Leu Pro Leu Val Leu Arg Gln
35 40 45
Val Tyr Gln Lys Gly Leu Gln Asp Val Asn Leu Arg Asn Phe Ser
50 55 60
Tyr Gly Gln Thr Ser Leu Asp Arg Leu Arg Asp Gly Leu Val Gly
65 70 75
Ala Gln Phe Trp Ser Ala Tyr Val Pro Cys Gln Thr Gln Asp Arg
80 85 90
Asp Ala Leu Arg Leu Thr Leu Glu Gln Ile Asp Leu Ile Arg Arg
95 100 105
Met Cys Ala Ser Tyr Ser Glu Leu Glu Leu Val Thr Ser Ala Lys
110 115 120
Ala Leu Asn Asp Thr Gln Lys Leu Ala Cys Leu Ile Gly Val Glu
125 130 135
Gly Gly His Ser Leu Asp Asn Ser Leu Ser Ile Leu Arg Thr Phe
140 145 150
Tyr Met Leu Gly Val Arg Tyr Leu Thr Leu Thr His Thr Cys Asn
155 160 165
Thr Pro Trp Ala Glu Ser Ser Ala Lys Gly Val His Ser Phe Tyr
170 175 180

T
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G

Asn Asn Ile Ser Gly Leu Thr Asp Phe Gly Glu Lys Val Val Ala
185 190 195
Glu Met Asn Arg Leu Gly Met Met Val Asp Leu Ser His Val Ser
200 205 210
Asp Ala Val Ala Arg Arg Ala Leu Glu Val Ser Gln Ala Pro Val
215 220 225
Ile Phe Ser His Ser Ala Ala Arg Gly Val Cys Asn Ser Ala Arg
230 235 240
Asn Val Pro Asp Asp Ile Leu Gln Leu Leu Lys Lys Asn Gly Gly
245 250 255
Val Val Met Val Ser Leu Ser Met Gly Val Ile Gln Cys Asn Pro
260 265 270
Ser Ala Asn Val Ser Thr Val Ala Asp His Phe Asp His Ile Lys
275 280 285
Ala Val Ile Gly Ser Lys Phe Ile Gly Ile Gly Gly Asp Tyr Asp
290 295 300
Gly Ala Gly Lys Phe Pro Gln Gly Leu Glu Asp Val Ser Thr Tyr
305 310 315
Pro Val Leu Ile Glu Glu Leu Leu Ser Arg Gly Trp Ser Glu Glu
320 325 330
Glu Leu Gln Gly Val Leu Arg Gly Asn Leu Leu Arg Val Phe Arg
335 340 345
Gln Val Glu Lys Val Gln Glu Glu Asn Lys Trp Gln Ser Pro Leu
350 355 360
Glu Asp Lys Phe Pro Asp Glu Gln Leu Ser Ser Ser Cys His Ser
365 370 375
Asp Leu Ser Arg Leu Arg Gln Arg Gln Ser Leu Thr Ser Gly Gln
380 385 390
Glu Leu Thr Glu Ile Pro Ile His Trp Thr Ala Lys Leu Pro Ala
395 400 405
Lys Trp Ser Val Ser Glu Ser Ser Pro His Met Ala Pro Val Leu
410 415 420
Ala Val Val Ala Thr Phe Pro Val Leu Ile Leu Trp Leu
425 430

<210> 25

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

卷之三

<400> 25
agttctggtc agcctatgtg cc 22

<210> 26
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 26
cgtgatggtg tctttgtcca tggg 24

<210> 27
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 27
ctccaccaat cccgatgaac ttgg 24

<210> 28
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 28
gaggcattttt acctcatacg ccgcattgtgt gcctcctatt ctgagctgga 50

<210> 29
<211> 1416
<212> DNA
<213> Homo Sapien

<400> 29
aaaacctata aatattccgg attattcata ccgtcccacc atcgggcgcg 50
gatccgcggc cgcgaaattct aaaccaacat gccgggcacc tacgctccct 100
cgaccacact cagtagtccc agcacccagg gcctgcaaga gcaggcacgg 150
gccctgatgc gggacttccc gtcgtggac ggccacaacg acctgcccct 200
ggtcctaagg caggtttacc agaaagggtt acaggatgtt aacctgcgca 250
atttcagcta cggccagacc agcctggaca ggcttagaga tggcctcggt 300
ggcgccccagt tctggtcagc ctatgtgcca tgccagaccc aggacccggga 350
tgccctgcgc ctcaccctgg agcagattga cctcatacgc cgcattgtgt 400

cctccatttc tgagctggag cttgtgacct cggtctaaagc tctgaacgac 450
actcagaaat tggcctgcct catcggtgta gagggtggcc actcgctgga 500
caatagcctc tccatcttac gtaccttcta catgctggga gtgcgtacc 550
tgacgctcac ccacacctgc aacacacccct gggcagagag ctccgctaag 600
ggcgtccact cttctacaa caacatcagc gggctgactg actttggta 650
gaaggtggtg gcagaaatga accgcctggg catgatggta gacttatccc 700
atgtctcaga tgctgtggca cggcgcccc tggaaagtgtc acaggcacct 750
gtgatcttct cccactcgcc tgccggggt gtgtgcaaca gtgctcgaa 800
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gcgggtcttc agacaagtgg aaaaggtaca ggaagaaaaac aaatggcaaa 1150
gcccttgga ggacaagtcc ccggatgagc agctgagcag ttccctgccac 1200
tccgacctct cacgtctgct tcagagacag agtctgactt cagggcagga 1250
actcactgag attcccatac actggacagc caagttacca gccaagtgg 1300
cagtctcaga gtcctcccc caccctgaca aaactcacac atgcccaccc 1350
tgcccagcac ctgaactcct ggggggaccg tcagtcttcc tcttcccccc 1400
aaaacccaag gacacc 1416

<210> 30
<211> 446
<212> PRT
<213> Homo Sapien

<400> 30
Met Pro Gly Thr Tyr Ala Pro Ser Thr Thr Leu Ser Ser Pro Ser
1 5 10 15
Thr Gln Gly Leu Gln Glu Gln Ala Arg Ala Leu Met Arg Asp Phe
20 25 30
Pro Leu Val Asp Gly His Asn Asp Leu Pro Leu Val Leu Arg Gln
35 40 45
Val Tyr Gln Lys Gly Leu Gln Asp Val Asn Leu Arg Asn Phe Ser

50	55	60
Tyr Gly Gln Thr Ser Leu Asp Arg Leu Arg Asp Gly		
65	70	75
Ala Gln Phe Trp Ser Ala Tyr Val Pro Cys Gln Thr Gln Asp Arg		
80	85	90
Asp Ala Leu Arg Leu Thr Leu Glu Gln Ile Asp Leu Ile Arg Arg		
95	100	105
Met Cys Ala Ser Tyr Ser Glu Leu Glu Leu Val Thr Ser Ala Lys		
110	115	120
Ala Leu Asn Asp Thr Gln Lys Leu Ala Cys Leu Ile Gly Val Glu		
125	130	135
Gly Gly His Ser Leu Asp Asn Ser Leu Ser Ile Leu Arg Thr Phe		
140	145	150
Tyr Met Leu Gly Val Arg Tyr Leu Thr Leu Thr His Thr Cys Asn		
155	160	165
Thr Pro Trp Ala Glu Ser Ser Ala Lys Gly Val His Ser Phe Tyr		
170	175	180
Asn Asn Ile Ser Gly Leu Thr Asp Phe Gly Glu Lys Val Val Ala		
185	190	195
Glu Met Asn Arg Leu Gly Met Met Val Asp Leu Ser His Val Ser		
200	205	210
Asp Ala Val Ala Arg Arg Ala Leu Glu Val Ser Gln Ala Pro Val		
215	220	225
Ile Phe Ser His Ser Ala Ala Arg Gly Val Cys Asn Ser Ala Arg		
230	235	240
Asn Val Pro Asp Asp Ile Leu Gln Leu Leu Lys Lys Asn Gly Gly		
245	250	255
Val Val Met Val Ser Leu Ser Met Gly Val Ile Gln Cys Asn Pro		
260	265	270
Ser Ala Asn Val Ser Thr Val Ala Asp His Phe Asp His Ile Lys		
275	280	285
Ala Val Ile Gly Ser Lys Phe Ile Gly Ile Gly Gly Asp Tyr Asp		
290	295	300
Gly Ala Gly Lys Phe Pro Gln Gly Leu Glu Asp Val Ser Thr Tyr		
305	310	315
Pro Val Leu Ile Glu Glu Leu Leu Ser Arg Gly Trp Ser Glu Glu		
320	325	330
Glu Leu Gln Gly Val Leu Arg Gly Asn Leu Leu Arg Val Phe Arg		
335	340	345

Gln Val Glu Lys Val Gln Glu Glu Asn Lys Trp Gln Ser Pro Leu
 350 355 360
 Glu Asp Lys Phe Pro Asp Glu Gln Leu Ser Ser Ser Cys His Ser
 365 370 375
 Asp Leu Ser Arg Leu Arg Gln Arg Gln Ser Leu Thr Ser Gly Gln
 380 385 390
 Glu Leu Thr Glu Ile Pro Ile His Trp Thr Ala Lys Leu Pro Ala
 395 400 405
 Lys Trp Ser Val Ser Glu Ser Ser Pro His Pro Asp Lys Thr His
 410 415 420
 Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
 425 430 435
 Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 440 445

<210> 31
 <211> 1790
 <212> DNA
 <213> Homo Sapien

<400> 31
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 gcggtcccgcg ccctgogcca ccggccgcccga gccgcagccc ggcgcgcgc 100
 cccggcagcg ccggccccat gcccgcggc cgccggggcc ccgcgcgccta 150
 atccgcgcgg cggccgcgc cgttgctgcc cctgctgctg ctgctctgctg 200
 tcctcggggc gccgcgagcc ggatcaggag cccacacagc tgtgtatcagt 250
 ccccaggatc ccacgcttct catcggtctcc tccctgctgg ccacctgctc 300
 agtgcacgga gaccaccagg gagccaccgc cgagggctc tactggaccc 350
 tcaacggcgcc cggccctgccc cctgagctct cccgtgtact caacgcctcc 400
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 ggacaacctc gtgtgccacg cccgtgacgg cagcatcctg gctggctcc 500
 gcctctatgt tggccctgccc ccagagaaac ccgtcaacat cagctgtgg 550
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 ggagaccttc ctccacacca actactccct caagtacaag ctttaggtgg 650
 atggccagga caacacatgt gaggagtacc acacagtggg gccccactcc 700
 tgccacatcc ccaaggaccc ggctctttt acgcctatg agatctgggt 750
 ggaggccacc aaccgcctgg gctctgccccg ctccgatgta ctcacgctgg 800

PDB ID: 1E60

atatcctgga tgtggtgacc acggacccccc cgccccacgt gcacgtgagc 850
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cgccctcaag gatttcctct ttcaagccaa ataccagatc cgctaccgag 950
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gcgctgcaac cccttggca tctatggctc caagaaaagcc gggatctgga 1100
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ggcccccggcg gccccggcg cgaaccgcgg ggcggagagc cgagctcgaa 1200
gccgggtgcgg cgcgagctca agcagttcct gggctggctc aagaaggcacg 1250
cgtactgctc caacctcagc ttccgcctct acgaccagtg gcgagcctgg 1300
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aggccaccct ccctgccacg tggagacgca gaggccgaac ccaaactggg 1450
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aaaaaaaaaa aaaaaaaaaa aaaaacaaaa aaaaaaaaaa 1790

<210> 32
<211> 422
<212> PRT
<213> Homo Sapien

<400> 32

Met	Pro	Ala	Gly	Arg	Arg	Gly	Pro	Ala	Ala	Gln	Ser	Ala	Arg	Arg
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				20				25				30		
Ala	Pro	Arg	Ala	Gly	Ser	Gly	Ala	His	Thr	Ala	Val	Ile	Ser	Pro
		35					40						45	
Gln	Asp	Pro	Thr	Leu	Leu	Ile	Gly	Ser	Ser	Leu	Leu	Ala	Thr	Cys
			50					55					60	

Ser Val His Gly Asp Pro Pro Gly Ala Thr Ala Glu Gly Leu Tyr
 65 70 75
 Trp Thr Leu Asn Gly Arg Arg Leu Pro Pro Glu Leu Ser Arg Val
 80 85 90
 Leu Asn Ala Ser Thr Leu Ala Leu Ala Leu Ala Asn Leu Asn Gly
 95 100 105
 Ser Arg Gln Arg Ser Gly Asp Asn Leu Val Cys His Ala Arg Asp
 110 115 120
 Gly Ser Ile Leu Ala Gly Ser Cys Leu Tyr Val Gly Leu Pro Pro
 125 130 135
 Glu Lys Pro Val Asn Ile Ser Cys Trp Ser Lys Asn Met Lys Asp
 140 145 150
 Leu Thr Cys Arg Trp Thr Pro Gly Ala His Gly Glu Thr Phe Leu
 155 160 165
 His Thr Asn Tyr Ser Leu Lys Tyr Lys Leu Arg Trp Tyr Gly Gln
 170 175 180
 Asp Asn Thr Cys Glu Glu Tyr His Thr Val Gly Pro His Ser Cys
 185 190 195
 His Ile Pro Lys Asp Leu Ala Leu Phe Thr Pro Tyr Glu Ile Trp
 200 205 210
 Val Glu Ala Thr Asn Arg Leu Gly Ser Ala Arg Ser Asp Val Leu
 215 220 225
 Thr Leu Asp Ile Leu Asp Val Val Thr Thr Asp Pro Pro Pro Asp
 230 235 240
 Val His Val Ser Arg Val Gly Leu Glu Asp Gln Leu Ser Val
 245 250 255
 Arg Trp Val Ser Pro Pro Ala Leu Lys Asp Phe Leu Phe Gln Ala
 260 265 270
 Lys Tyr Gln Ile Arg Tyr Arg Val Glu Asp Ser Val Asp Trp Lys
 275 280 285
 Val Val Asp Asp Val Ser Asn Gln Thr Ser Cys Arg Leu Ala Gly
 290 295 300
 Leu Lys Pro Gly Thr Val Tyr Phe Val Gln Val Arg Cys Asn Pro
 305 310 315
 Phe Gly Ile Tyr Gly Ser Lys Lys Ala Gly Ile Trp Ser Glu Trp
 320 325 330
 Ser His Pro Thr Ala Ala Ser Thr Pro Arg Ser Glu Arg Pro Gly
 335 340 345
 Pro Gly Gly Ala Cys Glu Pro Arg Gly Gly Glu Pro Ser Ser

350 355 360
Gly Pro Val Arg Arg Glu Leu Lys Gln Phe Leu Gly Trp Leu Lys
365 370 375
Lys His Ala Tyr Cys Ser Asn Leu Ser Phe Arg Leu Tyr Asp Gln
380 385 390
Trp Arg Ala Trp Met Gln Lys Ser His Lys Thr Arg Asn Gln Asp
395 400 405
Glu Gly Ile Leu Pro Ser Gly Arg Arg Gly Thr Ala Arg Gly Pro
410 415 420
Ala Arg

<210> 33
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 33
cccgccccgac gtgcacgtga gcc 23

<210> 34
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 34
tgagccagcc caggaactgc ttg 23

<210> 35
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 35
caagtgcgct gcaaccctt tggcatctat ggctccaaga aagccggat 50

<210> 36
<211> 1771
<212> DNA
<213> Homo Sapien

<400> 36
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agtggtaaaa aaaaaaaaaa acacaccaaa cgctcgacg cacaagg 100
atgaaaatttc ttctggacat cctcctgctt ctcccggtac tgatcgctg 150
ctccctagag tccttcgtga agcttttat tcctaagagg agaaaatcag 200
tcaccggcga aatcggtctg attacaggag ctgggcatgg aattgggaga 250
ctgactgcct atgaatttgc taaacttaaa agcaagctgg ttctctggga 300
tataaataag catggactgg aggaaacacgc tgccaaatgc aagggactgg 350
gtgccaaggt tcatacctt gtggtagact gcagcaaccc agaagatatt 400
tacagctctg caaagaaggt gaaggcagaa attggagatg ttagtatttt 450
agtaaataat gctgggttag tctatacatac agatttttt gctacacaag 500
atcctcagat tgaaaagact tttgaagtta atgtacttgc acatttctgg 550
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gatgaactgg ctgccttaca aataactgga gtcaaaacaa catgtctgtg 750
tcctaatttc gtaaacactg gtttcatcaa aaatccaagt acaagttgg 800
gaccactct ggaacctgag gaagtggtaa acaggctgat gcatgggatt 850
ctgactgagc agaagatgat ttttattcca tcttctatag ctttttaac 900
aacattggaa aggatccttc ctgagcgttt cctggcagtt taaaaacgaa 950
aaatcagtgt taagtttgat gcagtttattg gatataaaat gaaagcgcac 1000
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tctaatacgcc ccagaatttt aatgtttgaa cttctgttt ttcttaattat 1100
ccccatttct tcaatatcat ttttgaggct ttggcagtct tcatttacta 1150
ccacttgttc ttttagccaaa agctgattac atatgatata aacagagaaa 1200
tacctttaga ggtgacttta aggaaaatga agaaaaagaa ccaaaatgac 1250
tttattaaaa taatttccaa gattatttg ggctcacctg aaggcttgc 1300
aaaatttgc ccataaccgt ttatattaaca tatattttta ttttgatttgc 1350
cacttaaatt ttgtataatt tttgtttctt tttctgttct acataaaatc 1400
agaaaacttca agctctctaa ataaaaatgaa ggactatatc tagtggattt 1450
tcacaatgaa tatcatgaac tctcaatggg taggtttcat cctaccatt 1500

gccactctgt ttccctgagag atacacctaca ttcccaatgcc aaacatttct 1550
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taaatggatc acacttaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1700
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<210> 37
<211> 300
<212> PRT
<213> Homo Sapien

<400> 37

Met	Lys	Phe	Leu	Leu	Asp	Ile	Leu	Leu	Leu	Pro	Leu	Leu	Ile	
1													15	
Val	Cys	Ser	Leu	Glu	Ser	Phe	Val	Lys	Leu	Phe	Ile	Pro	Lys	Arg
													30	
Arg	Lys	Ser	Val	Thr	Gly	Glu	Ile	Val	Leu	Ile	Thr	Gly	Ala	Gly
													45	
His	Gly	Ile	Gly	Arg	Leu	Thr	Ala	Tyr	Glu	Phe	Ala	Lys	Leu	Lys
													60	
Ser	Lys	Leu	Val	Leu	Trp	Asp	Ile	Asn	Lys	His	Gly	Leu	Glu	Glu
													75	
Thr	Ala	Ala	Lys	Cys	Lys	Gly	Leu	Gly	Ala	Lys	Val	His	Thr	Phe
													90	
Val	Val	Asp	Cys	Ser	Asn	Arg	Glu	Asp	Ile	Tyr	Ser	Ser	Ala	Lys
													105	
Lys	Val	Lys	Ala	Glu	Ile	Gly	Asp	Val	Ser	Ile	Leu	Val	Asn	Asn
													120	
Ala	Gly	Val	Val	Tyr	Thr	Ser	Asp	Leu	Phe	Ala	Thr	Gln	Asp	Pro
													135	
Gln	Ile	Glu	Lys	Thr	Phe	Glu	Val	Asn	Val	Leu	Ala	His	Phe	Trp
													150	
Thr	Thr	Lys	Ala	Phe	Leu	Pro	Ala	Met	Thr	Lys	Asn	Asn	His	Gly
													165	
His	Ile	Val	Thr	Val	Ala	Ser	Ala	Ala	Gly	His	Val	Ser	Val	Pro
													180	
Phe	Leu	Leu	Ala	Tyr	Cys	Ser	Ser	Lys	Phe	Ala	Ala	Val	Gly	Phe
													195	
His	Lys	Thr	Leu	Thr	Asp	Glu	Leu	Ala	Ala	Leu	Gln	Ile	Thr	Gly

200	205	210
Val Lys Thr Thr Cys Leu Cys Pro Asn Phe Val Asn Thr Gly Phe		
215	220	225
Ile Lys Asn Pro Ser Thr Ser Leu Gly Pro Thr Leu Glu Pro Glu		
230	235	240
Glu Val Val Asn Arg Leu Met His Gly Ile Leu Thr Glu Gln Lys		
245	250	255
Met Ile Phe Ile Pro Ser Ser Ile Ala Phe Leu Thr Thr Leu Glu		
260	265	270
Arg Ile Leu Pro Glu Arg Phe Leu Ala Val Leu Lys Arg Lys Ile		
275	280	285
Ser Val Lys Phe Asp Ala Val Ile Gly Tyr Lys Met Lys Ala Gln		
290	295	300

<210> 38

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 38

ggtaaggca gaaattggag atg 23

<210> 39

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 39

atcccatgca tcagcctgtt tacc 24

<210> 40

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 40

gctgggttag tctatacatc agatttgtt gctacacaag atccctcag 48

<210> 41

<211> 1377

<212> DNA

<213> Homo Sapien

<400> 41
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gaaccaggac tgggtgacg gcagggcagg gggcgctgg ccggggagaa 100
gcgcggggc tggagcacca ccaactggag ggtccggagt agcgagcgcc 150
ccgaaggagg ccatcgggga gccgggaggg gggactgcga gaggacccc 200
gcgtccggc tcccggtgcc agcgctatga ggccactcct cgtcctgctg 250
ctcctggcc tggcgccgg ctgcgcggca ctggacgaca acaagatccc 300
cagcctctgc cggggcacc ccggccttcc aggcacgccc ggccaccatg 350
gcagccaggg cttgccccggc cgcgatggcc ggcacggccg cgacggcg 400
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acctcgaggg gaccccgggc cgcgaggaga ggcgggaccc gcggggccca 500
ccgggcctgc cggggagtgc tcgggtccgc cgcgatccgc ttcaagcgcc 550
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ggccggcccc ttttctcaga gatcactcaa taaacctaag aacccctcata 1350
aaaaaaaaaaaa aaaaaaaaaaaa aaaaaaaaaa 1377

<210> 42

<211> 243
<212> PRT
<213> Homo Sapien

<400> 42

Met	Arg	Pro	Leu	Leu	Val	Leu	Leu	Leu	Gly	Leu	Ala	Ala	Gly
1			5			10					15		

Ser Pro Pro Leu Asp Asp Asn Lys Ile Pro Ser Leu Cys Pro Gly

20				25			30						
----	--	--	--	----	--	--	----	--	--	--	--	--	--

His Pro Gly Leu Pro Gly Thr Pro Gly His His Gly Ser Gln Gly

35				40			45						
----	--	--	--	----	--	--	----	--	--	--	--	--	--

Leu Pro Gly Arg Asp Gly Arg Asp Gly Arg Asp Gly Ala Pro Gly

50				55			60						
----	--	--	--	----	--	--	----	--	--	--	--	--	--

Ala Pro Gly Glu Lys Gly Glu Gly Gly Arg Pro Gly Leu Pro Gly

65				70			75						
----	--	--	--	----	--	--	----	--	--	--	--	--	--

Pro Arg Gly Asp Pro Gly Pro Arg Gly Glu Ala Gly Pro Ala Gly

80				85			90						
----	--	--	--	----	--	--	----	--	--	--	--	--	--

Pro Thr Gly Pro Ala Gly Glu Cys Ser Val Pro Pro Arg Ser Ala

95				100			105						
----	--	--	--	-----	--	--	-----	--	--	--	--	--	--

Phe Ser Ala Lys Arg Ser Glu Ser Arg Val Pro Pro Pro Ser Asp

110				115			120						
-----	--	--	--	-----	--	--	-----	--	--	--	--	--	--

Ala Pro Leu Pro Phe Asp Arg Val Leu Val Asn Glu Gln Gly His

125				130			135						
-----	--	--	--	-----	--	--	-----	--	--	--	--	--	--

Tyr Asp Ala Val Thr Gly Lys Phe Thr Cys Gln Val Pro Gly Val

140				145			150						
-----	--	--	--	-----	--	--	-----	--	--	--	--	--	--

Tyr Tyr Phe Ala Val His Ala Thr Val Tyr Arg Ala Ser Leu Gln

155				160			165						
-----	--	--	--	-----	--	--	-----	--	--	--	--	--	--

Phe Asp Leu Val Lys Asn Gly Glu Ser Ile Ala Ser Phe Phe Gln

170				175			180						
-----	--	--	--	-----	--	--	-----	--	--	--	--	--	--

Phe Phe Gly Gly Trp Pro Lys Pro Ala Ser Leu Ser Gly Gly Ala

185				190			195						
-----	--	--	--	-----	--	--	-----	--	--	--	--	--	--

Met Val Arg Leu Glu Pro Glu Asp Gln Val Trp Val Gln Val Gly

200				205			210						
-----	--	--	--	-----	--	--	-----	--	--	--	--	--	--

Val Gly Asp Tyr Ile Gly Ile Tyr Ala Ser Ile Lys Thr Asp Ser

215				220			225						
-----	--	--	--	-----	--	--	-----	--	--	--	--	--	--

Thr Phe Ser Gly Phe Leu Val Tyr Ser Asp Trp His Ser Ser Pro

230				235			240						
-----	--	--	--	-----	--	--	-----	--	--	--	--	--	--

Val Phe Ala

<210> 43
<211> 24

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 43
 tacaggccca gtcaggacca gggg 24

<210> 44
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 44
 agccagcctc gctctcg 18

<210> 45
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 45
 gtctgcgtac aggtctgg 18

<210> 46
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 46
 gaaagaggca atggattcgc 20

<210> 47
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 47
 gacttacact tgccagcaca gcac 24

<210> 48
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 48
ggagcaccac caactggagg gtccggagta gcgagcgccc cgaag 45

<210> 49
<211> 1876
<212> DNA
<213> Homo Sapien

<400> 49
ctctttgtc caccagccca gcctgactcc tggagattgt gaatagctcc 50
atccagcctg agaaacaagc cgggtggctg agccaggctg tgcaacggagc 100
acctgacggg cccaacagac ccatgctgca tccagagacc tcccctggcc 150
gggggcatct cctggctgtg ctcctggccc tccttggcac cacctgggca 200
gaggtgtggc cacccccagct gcaggagcag gctccgatgg ccggagccct 250
gaacaggaag gagagttct tgctcctctc cctgcacaac cgccctgcgca 300
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cccgagcctg gcatccggcc tggcgac cctgcaagtg ggctggaaca 450
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gacaatcatc ccctataaga agggtgcctg gtgttcgtc tgacacagcca 750
gtgtctcagg ctgcttcaaa gcctggacc atgcaggggg gctctgtgag 800
gtccccagga atccttgcg catgagctgc cagaaccatg gacgtctcaa 850
catcagcacc tgccactgcc actgtcccc tggctacacg ggcagatact 900
gccaagtgag gtgcagcctg cagtgtgtc acggccggtt ccggggaggag 950
gagtgcgtcgt gctgtgtga catcgctac gggggagccc agtgtgccac 1000
caaggtgcat ttcccttcc acacctgtga cctgaggatc gacggagact 1050
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ccacctgtct ggaacaaggg ccaggttaag accacatgcc tcattgtccaa 1600
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gaggccagtg agggccaggg agttagtggt agaagaagct gggcccttc 1700
gcctgctttt gattgggaag atgggcttca attagatggc gaaggagagg 1750
acaccgcccag tggtccaaaa aggctgtctt cttccacctg gcccagaccc 1800
tgtgggcag cggagcttcc ctgtggcatg aaccccacgg ggtattaaat 1850
tatgaatcag ctgaaaaaaaaaaaaa 1876

<210> 50
<211> 455
<212> PRT
<213> Homo Sapien

<400> 50
Met Leu His Pro Glu Thr Ser Pro Gly Arg Gly His Leu Leu Ala
1 5 10 15
Val Leu Leu Ala Leu Leu Gly Thr Thr Trp Ala Glu Val Trp Pro
20 25 30
Pro Gln Leu Gln Glu Gln Ala Pro Met Ala Gly Ala Leu Asn Arg
35 40 45
Lys Glu Ser Phe Leu Leu Ser Leu His Asn Arg Leu Arg Ser
50 55 60
Trp Val Gln Pro Pro Ala Ala Asp Met Arg Arg Leu Asp Trp Ser
65 70 75
Asp Ser Leu Ala Gln Leu Ala Gln Ala Arg Ala Ala Leu Cys Gly
80 85 90
Ile Pro Thr Pro Ser Leu Ala Ser Gly Leu Trp Arg Thr Leu Gln
95 100 105
Val Gly Trp Asn Met Gln Leu Leu Pro Ala Gly Leu Ala Ser Phe

110	115	120
Val Glu Val Val Ser Leu Trp Phe Ala Glu Gly Gln Arg Tyr Ser		
125	130	135
His Ala Ala Gly Glu Cys Ala Arg Asn Ala Thr Cys Thr His Tyr		
140	145	150
Thr Gln Leu Val Trp Ala Thr Ser Ser Gln Leu Gly Cys Gly Arg		
155	160	165
His Leu Cys Ser Ala Gly Gln Thr Ala Ile Glu Ala Phe Val Cys		
170	175	180
Ala Tyr Ser Pro Gly Gly Asn Trp Glu Val Asn Gly Lys Thr Ile		
185	190	195
Ile Pro Tyr Lys Lys Gly Ala Trp Cys Ser Leu Cys Thr Ala Ser		
200	205	210
Val Ser Gly Cys Phe Lys Ala Trp Asp His Ala Gly Gly Leu Cys		
215	220	225
Glu Val Pro Arg Asn Pro Cys Arg Met Ser Cys Gln Asn His Gly		
230	235	240
Arg Leu Asn Ile Ser Thr Cys His Cys His Cys Pro Pro Gly Tyr		
245	250	255
Thr Gly Arg Tyr Cys Gln Val Arg Cys Ser Leu Gln Cys Val His		
260	265	270
Gly Arg Phe Arg Glu Glu Cys Ser Cys Val Cys Asp Ile Gly		
275	280	285
Tyr Gly Gly Ala Gln Cys Ala Thr Lys Val His Phe Pro Phe His		
290	295	300
Thr Cys Asp Leu Arg Ile Asp Gly Asp Cys Phe Met Val Ser Ser		
305	310	315
Glu Ala Asp Thr Tyr Tyr Arg Ala Arg Met Lys Cys Gln Arg Lys		
320	325	330
Gly Gly Val Leu Ala Gln Ile Lys Ser Gln Lys Val Gln Asp Ile		
335	340	345
Leu Ala Phe Tyr Leu Gly Arg Leu Glu Thr Thr Asn Glu Val Thr		
350	355	360
Asp Ser Asp Phe Glu Thr Arg Asn Phe Trp Ile Gly Leu Thr Tyr		
365	370	375
Lys Thr Ala Lys Asp Ser Phe Arg Trp Ala Thr Gly Glu His Gln		
380	385	390
Ala Phe Thr Ser Phe Ala Phe Gly Gln Pro Asp Asn His Gly Leu		
395	400	405

Val Trp Leu Ser Ala Ala Met Gly Phe Gly Asn Cys Val Glu Leu
410 415 420
Gln Ala Ser Ala Ala Phe Asn Trp Asn Asp Gln Arg Cys Lys Thr
425 430 435
Arg Asn Arg Tyr Ile Cys Gln Phe Ala Gln Glu His Ile Ser Arg
440 445 450
Trp Gly Pro Gly Ser
455

<210> 51
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 51
aggaaacttct ggatcgggct cacc 24

<210> 52
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 52
gggtctgggc caggtggaag agag 24

<210> 53
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 53
gccaaaggact cttcccgctg ggccacaggg gagcaccagg cttc 45

<210> 54
<211> 2331
<212> DNA
<213> Homo Sapien

<400> 54
cggaacgcgtg ggctgggcgc tgcaaagcgt gtccccccgg gtcggcggc 50
gtccccccgc ctcgccccgc catgctcctg ctgctgggc tgtgcctggg 100
gctgtccctg tgtgtggggc cgcaagaaaga ggccacaggg tggggccact 150
cttcggagca ggatggactc agggtcccga ggcaagtca gactgttgca 200

aggctgaaaa ccaaaccctt gatgacagaa ttctcagtga agtctaccat 250
catttccgt tatgccttca ctacggttc ctgcagaatg ctgaacagag 300
cttctgaaga ccaggacatt gagttccaga tgcagattcc agctgcagct 350
ttcatcacca acttcactat gcttattgga gacaagggtgt atcagggcga 400
aattacagag agagaaaaga agagtggta tagggtaaaa gagaaaagga 450
ataaaaaccac agaagaaaat ggagagaagg ggactgaaat attcagagct 500
tctgcagtga ttcccagcaa ggacaaagcc gccttttcc tgagttatga 550
ggagcttctg cagaggcgcc tggcaagta cgagcacagc atcagcgtgc 600
ggccccagca gctgtccggg aggctgagcg tggacgtgaa tatcctggag 650
agcgcgggca tcgcattccct ggaggtgctg ccgcattcaca acagcaggca 700
gagggcagt gggcgcgaaa aagatgattc tgggcctccc ccattctactg 750
tcattaacca aaatgaaaca tttgccaaca taattttaa acctactgta 800
gtacaacaag ccaggattgc ccagaatgga attttggag acttttatcat 850
tagatatgac gtcaatagag aacagagcat tggggacatc cagttctaa 900
atggctattt tgtgcactac tttgctccta aagaccttcc tcctttaccc 950
aagaatgtgg tattcgtgct tgacagcagt gcttctatgg tggaaaccaa 1000
actccggcag accaaggatg ccctttcac aattctccat gaccccgac 1050
cccaggacgg tttcagtatc attggatttt ccaaccggat caaatatgg 1100
aaggaccact tgatatcagt cactccagac agcatcaggg atggaaaagt 1150
gtacattcac catatgtcac ccactggagg cacagacatc aacggggccc 1200
tgcagagggc catcaggctc ctcaacaagt acgtggccca cagtggcatt 1250
ggagaccgga gcgtgtccct catcgtttc ctgacggatg ggaagcccac 1300
ggtcggggag acgcacaccc tcaagatcct caacaacacc cgagaggccg 1350
cccgaggcca agtctgcac ttcaccattt gcatggcaa cgacgtggac 1400
ttcaggctgc tggagaaact gtcgctggag aactgtggcc tcacacggcg 1450
cgtgcacgag gaggaggacg caggctcgca gctcatcggt ttctacgatg 1500
aaatcaggac cccgctccct tctgacatcc gcatcgatc tccccccagc 1550
tcagtggcgc aggccaccaa gaccctgttc cccaaactact tcaacggctc 1600
ggagatcatc attgcgggaa agctggtgaa caggaagctg gatcacctgc 1650

acgtggaggt caccgccagc aacagtaaga aattcatcat cctgaagaca 1700
gatgtgcctg tgccgcctca gaaggcaggg aaagatgtca caggaagccc 1750
caggcctgga ggcgatggag agggggacac caaccacatc gagcgtctct 1800
ggagctacct caccacaaag gagctgctga gctcctggct gcaaagtgac 1850
gatgaaccgg agaaggagcg gctgcggcag cgggcccagg ccctggctgt 1900
gagctaccgc ttccctcac tc cttcaccc catgaagctg agggggccgg 1950
tcccacgcat ggtggcctg gaggaggccc acggcatgtc ggctgccatg 2000
ggaccgcAAC cggtggtgca gagcgtgcga ggagctggca cgcagccagg 2050
acctttgctc aagaagccaa actccgtcaa aaaaaaaacaa aacaaaacaa 2100
aaaaaaagaca tgggagagat ggtgttttc ctctccacca cctggggata 2150
cgatgagaag atggccacct gcaagccagg aagacggccc tcaccagaca 2200
ccatgtctgc tggcacctt atcttgacc tcccagcctc cagaactgtg 2250
agaaaataaat gtgtttgtt taagctaaaa aaaaaaaaaa aaaaaaaaaa 2300
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a 2331

<210> 55
<211> 694
<212> PRT
<213> Homo Sapien

<400> 55
Met Leu Leu Leu Leu Gly Leu Cys Leu Gly Leu Ser Leu Cys Val
1 5 10 15
Gly Ser Gln Glu Glu Ala Gln Ser Trp Gly His Ser Ser Glu Gln
20 25 30
Asp Gly Leu Arg Val Pro Arg Gln Val Arg Leu Leu Gln Arg Leu
35 40 45
Lys Thr Lys Pro Leu Met Thr Glu Phe Ser Val Lys Ser Thr Ile
50 55 60
Ile Ser Arg Tyr Ala Phe Thr Thr Val Ser Cys Arg Met Leu Asn
65 70 75
Arg Ala Ser Glu Asp Gln Asp Ile Glu Phe Gln Met Gln Ile Pro
80 85 90
Ala Ala Ala Phe Ile Thr Asn Phe Thr Met Leu Ile Gly Asp Lys
95 100 105
Val Tyr Gln Gly Glu Ile Thr Glu Arg Glu Lys Lys Ser Gly Asp
110 115 120

Arg Val Lys Glu Lys Arg Asn Lys Thr Thr Glu Glu Asn Gly Glu
 125 130 135
 Lys Gly Thr Glu Ile Phe Arg Ala Ser Ala Val Ile Pro Ser Lys
 140 145 150
 Asp Lys Ala Ala Phe Phe Leu Ser Tyr Glu Glu Leu Leu Gln Arg
 155 160 165
 Arg Leu Gly Lys Tyr Glu His Ser Ile Ser Val Arg Pro Gln Gln
 170 175 180
 Leu Ser Gly Arg Leu Ser Val Asp Val Asn Ile Leu Glu Ser Ala
 185 190 195
 Gly Ile Ala Ser Leu Glu Val Leu Pro Leu His Asn Ser Arg Gln
 200 205 210
 Arg Gly Ser Gly Arg Gly Glu Asp Asp Ser Gly Pro Pro Pro Ser
 215 220 225
 Thr Val Ile Asn Gln Asn Glu Thr Phe Ala Asn Ile Ile Phe Lys
 230 235 240
 Pro Thr Val Val Gln Gln Ala Arg Ile Ala Gln Asn Gly Ile Leu
 245 250 255
 Gly Asp Phe Ile Ile Arg Tyr Asp Val Asn Arg Glu Gln Ser Ile
 260 265 270
 Gly Asp Ile Gln Val Leu Asn Gly Tyr Phe Val His Tyr Phe Ala
 275 280 285
 Pro Lys Asp Leu Pro Pro Leu Pro Lys Asn Val Val Phe Val Leu
 290 295 300
 Asp Ser Ser Ala Ser Met Val Gly Thr Lys Leu Arg Gln Thr Lys
 305 310 315
 Asp Ala Leu Phe Thr Ile Leu His Asp Leu Arg Pro Gln Asp Arg
 320 325 330
 Phe Ser Ile Ile Gly Phe Ser Asn Arg Ile Lys Val Trp Lys Asp
 335 340 345
 His Leu Ile Ser Val Thr Pro Asp Ser Ile Arg Asp Gly Lys Val
 350 355 360
 Tyr Ile His His Met Ser Pro Thr Gly Gly Thr Asp Ile Asn Gly
 365 370 375
 Ala Leu Gln Arg Ala Ile Arg Leu Leu Asn Lys Tyr Val Ala His
 380 385 390
 Ser Gly Ile Gly Asp Arg Ser Val Ser Leu Ile Val Phe Leu Thr
 395 400 405
 Asp Gly Lys Pro Thr Val Gly Glu Thr His Thr Leu Lys Ile Leu

410	415	420
Asn Asn Thr Arg Glu Ala Ala Arg Gly Gln Val Cys Ile Phe Thr		
425	430	435
Ile Gly Ile Gly Asn Asp Val Asp Phe Arg Leu Leu Glu Lys Leu		
440	445	450
Ser Leu Glu Asn Cys Gly Leu Thr Arg Arg Val His Glu Glu Glu		
455	460	465
Asp Ala Gly Ser Gln Leu Ile Gly Phe Tyr Asp Glu Ile Arg Thr		
470	475	480
Pro Leu Leu Ser Asp Ile Arg Ile Asp Tyr Pro Pro Ser Ser Val		
485	490	495
Val Gln Ala Thr Lys Thr Leu Phe Pro Asn Tyr Phe Asn Gly Ser		
500	505	510
Glu Ile Ile Ile Ala Gly Lys Leu Val Asp Arg Lys Leu Asp His		
515	520	525
Leu His Val Glu Val Thr Ala Ser Asn Ser Lys Lys Phe Ile Ile		
530	535	540
Leu Lys Thr Asp Val Pro Val Arg Pro Gln Lys Ala Gly Lys Asp		
545	550	555
Val Thr Gly Ser Pro Arg Pro Gly Gly Asp Gly Glu Gly Asp Thr		
560	565	570
Asn His Ile Glu Arg Leu Trp Ser Tyr Leu Thr Thr Lys Glu Leu		
575	580	585
Leu Ser Ser Trp Leu Gln Ser Asp Asp Glu Pro Glu Lys Glu Arg		
590	595	600
Leu Arg Gln Arg Ala Gln Ala Leu Ala Val Ser Tyr Arg Phe Leu		
605	610	615
Thr Pro Phe Thr Ser Met Lys Leu Arg Gly Pro Val Pro Arg Met		
620	625	630
Asp Gly Leu Glu Glu Ala His Gly Met Ser Ala Ala Met Gly Pro		
635	640	645
Glu Pro Val Val Gln Ser Val Arg Gly Ala Gly Thr Gln Pro Gly		
650	655	660
Pro Leu Leu Lys Lys Pro Asn Ser Val Lys Lys Lys Gln Asn Lys		
665	670	675
Thr Lys Lys Arg His Gly Arg Asp Gly Val Phe Pro Leu His His		
680	685	690
Leu Gly Ile Arg		

<210> 56
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 56
gtgggaacca aactccggca gacc 24

<210> 57
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 57
cacatcgagc gtctctgg 18

<210> 58
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 58
agccgctcct tctccggttc atcg 24

<210> 59
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 59
tggaaggacc acttgatatac agtcactcca gacagcatca gggatggg 48

<210> 60
<211> 1413
<212> DNA
<213> Homo Sapien

<400> 60
cggacgcgtg gggtgcccgaa catggcgagt gtagtgctgc cgagcggatc 50
ccagtggtcg gcggcagcgg cggcgccggc gcctccccgg ctccggcttc 100
tgctgttgc tttctccggcc gggcactga tccccacagg tgatggcag 150
aatctgttta cgaaagacgt gacagtgtac gagggagagg ttgcgaccat 200

cagttgccaa gtcaataaga gtgacgactc tgtgattcag ctactgaatc 250
ccaacaggca gaccatttat ttcagggact tcagggcttt gaaggacagc 300
aggtttcagt tgctgaattt ttcttagcagt gaactcaaag tatcattgac 350
aacacgtctca atttctgatg aaggaagata cttttgccag ctctataccg 400
atccccccaca ggaaagttac accaccatca cagtccttgt cccaccacgt 450
aatctgtatga tcgatatatcca gaaagacact gcggtgaaag gtgaggagat 500
tgaagtcaac tgcactgcta tggccagcaa gccagccacg actatcaggt 550
ggttcaaagg gaacacagag ctaaaaaggca aatcgaggt ggaagagtgg 600
tcagacatgt acactgtgac cagtcagctg atgctgaagg tgacacaagga 650
ggacgatggg gtcccagtga tctgccaggt ggagcacccct gcggtcactg 700
gaaacctgca gacccagcgg tatctagaag tacagtataa gcctcaagtg 750
cacattcaga tgacttatcc tctacaaggc ttaaccggg aaggggacgc 800
gcttgagttt acatgtgaag ccatcgaa gccccagcct gtgatggtaa 850
cttgggtgag agtcgatgtat gaaatgcctc aacacgcccgt actgtctggg 900
cccaacctgt tcatcaataa cctaaaacaaa acagataatg gtacataccg 950
ctgtgaagct tcaaacatag tggggaaagc tcactcgat tatatgctgt 1000
atgtatacga tccccccaca actatccctc ctcccacaac aaccaccacc 1050
accaccacca ccaccaccac caccatcctt accatcatca cagattcccg 1100
agcaaggtgaa gaaggctcga tcagggcagt ggatcatgcc gtgatcggtg 1150
gcttcgtggc ggtggtggtg ttccatgc tgcgttgc catcattctg 1200
ggcgctatt ttgcagaca taaaggtaca tacttcactc atgaagccaa 1250
aggagccgat gacgcagcag acgcagacac agctataatc aatgcagaag 1300
gaggacagaa caactccgaa gaaaagaaaag agtacttcat ctagatcago 1350
ctttttgttt caatgaggtg tccaaactggc cctatttgc tgataaagag 1400
acagtgtat tgg 1413

<210> 61
<211> 440
<212> PRT
<213> Homo Sapien

<400> 61
Met Ala Ser Val Val Leu Pro Ser Gly Ser Gln Cys Ala Ala Ala
1 5 10 15

Ala Ala Ala Ala Ala Pro Pro Gly Leu Arg Leu Leu Leu Leu
 20 25 30
 Phe Ser Ala Ala Ala Leu Ile Pro Thr Gly Asp Gly Gln Asn Leu
 35 40 45
 Phe Thr Lys Asp Val Thr Val Ile Glu Gly Glu Val Ala Thr Ile
 50 55 60
 Ser Cys Gln Val Asn Lys Ser Asp Asp Ser Val Ile Gln Leu Leu
 65 70 75
 Asn Pro Asn Arg Gln Thr Ile Tyr Phe Arg Asp Phe Arg Pro Leu
 80 85 90
 Lys Asp Ser Arg Phe Gln Leu Leu Asn Phe Ser Ser Ser Glu Leu
 95 100 105
 Lys Val Ser Leu Thr Asn Val Ser Ile Ser Asp Glu Gly Arg Tyr
 110 115 120
 Phe Cys Gln Leu Tyr Thr Asp Pro Pro Gln Glu Ser Tyr Thr Thr
 125 130 135
 Ile Thr Val Leu Val Pro Pro Arg Asn Leu Met Ile Asp Ile Gln
 140 145 150
 Lys Asp Thr Ala Val Glu Gly Glu Glu Ile Glu Val Asn Cys Thr
 155 160 165
 Ala Met Ala Ser Lys Pro Ala Thr Thr Ile Arg Trp Phe Lys Gly
 170 175 180
 Asn Thr Glu Leu Lys Gly Lys Ser Glu Val Glu Glu Trp Ser Asp
 185 190 195
 Met Tyr Thr Val Thr Ser Gln Leu Met Leu Lys Val His Lys Glu
 200 205 210
 Asp Asp Gly Val Pro Val Ile Cys Gln Val Glu His Pro Ala Val
 215 220 225
 Thr Gly Asn Leu Gln Thr Gln Arg Tyr Leu Glu Val Gln Tyr Lys
 230 235 240
 Pro Gln Val His Ile Gln Met Thr Tyr Pro Leu Gln Gly Leu Thr
 245 250 255
 Arg Glu Gly Asp Ala Leu Glu Leu Thr Cys Glu Ala Ile Gly Lys
 260 265 270
 Pro Gln Pro Val Met Val Thr Trp Val Arg Val Asp Asp Glu Met
 275 280 285
 Pro Gln His Ala Val Leu Ser Gly Pro Asn Leu Phe Ile Asn Asn
 290 295 300
 Leu Asn Lys Thr Asp Asn Gly Thr Tyr Arg Cys Glu Ala Ser Asn

305 310 315

Ile Val Gly Lys Ala His Ser Asp Tyr Met Leu Tyr Val Tyr Asp
320 325 330

Pro Pro Thr Thr Ile Pro Pro Pro Thr Thr Thr Thr Thr Thr Thr
335 340 345

Thr Thr Thr Thr Thr Ile Leu Thr Ile Ile Thr Asp Ser Arg
350 355 360

Ala Gly Glu Glu Gly Ser Ile Arg Ala Val Asp His Ala Val Ile
365 370 375

Gly Gly Val Val Ala Val Val Val Phe Ala Met Leu Cys Leu Leu
380 385 390

Ile Ile Leu Gly Arg Tyr Phe Ala Arg His Lys Gly Thr Tyr Phe
395 400 405

Thr His Glu Ala Lys Gly Ala Asp Asp Ala Ala Asp Ala Asp Thr
410 415 420

Ala Ile Ile Asn Ala Glu Gly Gly Gln Asn Asn Ser Glu Glu Lys
425 430 435

Lys Glu Tyr Phe Ile
440

<210> 62
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 62
ggcttctgct gttgtcttc tccg 24

<210> 63
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 63
gtacactgtg accagtcgc 20

<210> 64
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 64
atcatcacag attcccgagc 20

<210> 65
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 65
ttcaatctcc tcacacctca cccgc 24

<210> 66
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 66
atagctgtgt ctgcgtctgc tgcgt 24

<210> 67
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 67
cgcggcactg atccccacag gtgatggca gaatctgttt acgaaagacg 50

<210> 68
<211> 2555
<212> DNA
<213> Homo Sapien

<400> 68
ggggcgggtg gacgcggact cgaacgcagt tgcttcggga cccaggaccc 50
cctcggggccc gacccgcacag gaaagactga ggccgcggcc tggccggccc 100
ggctccctgc gccggcccg cttccggga cagaagatgt gctccagggt 150
ccctctgtgc ctggcgctgc ttctgtact ggccctgggg cttgggtgc 200
agggtgtgttcc atccggctgc cagtgccac agccacacac agtcttctgc 250
actgcccccc aggggaccac ggtgccccga gacgtgccac ccgacacggc 300
ggggctgtac gtctttgaga acggcatcac catgctcgac gcaaggagct 350
ttggccggcct gccgggcctg cagtcctgg acctgtcaca gaaccagatc 400

gccagcctgc gcctgccccg cctgtgtctg ctggacotca gccacaacag 450
cctcctggcc ctggagccccg gcatcctgga cactgccaac gtggaggcgc 500
tgcggctggc tggctctgggg ctgcagcagc tggacgaggg gctttcago 550
cgcttgcgca acctccacga cctggatgtg tccgacaacc agctggagcg 600
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gcaacccctt caactgcgtg tgccccctga gctggtttg cccctgggtg 850
cgcgagagcc acgtcacact gcccagccct gaggagacgc gctgccactt 900
cccgcccaag aacgctggcc ggctgctcct ggagcttgac taagccgact 950
ttggctgccc agccaccacc accacagcca cagtgcacac cacgaggccc 1000
gtggtgccgg agcccacagc cttgtcttct agcttggctc ctacctggct 1050
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caccgactgt agggcctgtc cccagcccc aggactgeccc acgttcacc 1150
tgcctcaatg gggcacatg ccacctgggg acacggcacc acctggcgtg 1200
cttgcctccc gaaggcttca cgggcctgta ctgtgagagc cagatggggc 1250
aggggacacg gcccagccct acaccagtca cgccgaggcc accacggtcc 1300
ctgaccctgg gcatcgagcc ggtgagcccc acctccctgc gcgtggggct 1350
gcagcgctac ctccaggggga gctccgtgca gtcaggagc ctccgtctca 1400
cctatcgcaa cctatcgccc cctgataagc ggctggtgac gctgcgactg 1450
cctgcctcgc tcgctgagta cacggtcacc cagctgcggc ccaacgccac 1500
ttactccgtc tgtgtcatgc ctttggggcc cgggcgggtg ccggagggcg 1550
aggaggctg cggggaggcc catacaccccc cagccgtcca ctccaaccac 1600
gccccagtca cccaggcccc cgagggcaac ctgcccgtcc tcattgcgcc 1650
cgccctggcc gcggtgctcc tggccgcgt ggctgcgggtg gggcagcct 1700
actgtgtcg gccccggccgg gccatggcag cagcggctca ggacaaagg 1750
caggtggggc caggggctgg gcccctggaa ctggagggag tgaaggtccc 1800
cttggagcca ggcccgaaagg caacagaggg cgggtggagag gcccctgccc 1850

gcgggtctga gtgtgaggtg ccactcatgg gttcccagg gcctggcctc 1900
cagtcacccc tccacgcaaa gccctacatc taagccagag agagacaggg 1950
cagctggggc cgggctctca gccagtgaga tggccagccc cctcctgctg 2000
ccacaccacg taagttctca gtcccaacct cggggatgtg tgccagacagg 2050
gctgtgtgac cacagctggg ccctgttccc tctggacctc ggtctctca 2100
tctgtgagat gctgtggccc agctgacgag ccctaacgtc cccagaaccg 2150
agtgcctatg aggacagtgt cccctgtgcc ctccgcaacg tgcagtcct 2200
gggcacggcg ggccctgcca tgtgtggta acgcatgcct gggccctgct 2250
gggctctccc actccagcg gaccctgggg gccagtgaag gaagctcccc 2300
gaaagagcag agggagagcg ggtaggcggc tgtgtgactc tagtcttggc 2350
cccaggaagc gaaggaacaa aagaaaactgg aaaggaagat gctttagaa 2400
catgtttgc tttttaaaaa tatatatata tttataagag atcctttccc 2450
atttattctg ggaagatgtt tttcaaactc agagacaagg actttggttt 2500
ttgtaagaca aacgatgata tgaaggcctt ttgtaagaaa aaataaaaaaa 2550
aaaaaa 2555

<210> 69
<211> 598
<212> PRT
<213> Homo Sapien

<400> 69
Met Cys Ser Arg Val Pro Leu Leu Leu Pro Leu Leu Leu Leu
1 5 10 15
Ala Leu Gly Pro Gly Val Gln Gly Cys Pro Ser Gly Cys Gln Cys
20 25 30
Ser Gln Pro Gln Thr Val Phe Cys Thr Ala Arg Gln Gly Thr Thr
35 40 45
Val Pro Arg Asp Val Pro Pro Asp Thr Val Gly Leu Tyr Val Phe
50 55 60
Glu Asn Gly Ile Thr Met Leu Asp Ala Ser Ser Phe Ala Gly Leu
65 70 75
Pro Gly Leu Gln Leu Leu Asp Leu Ser Gln Asn Gln Ile Ala Ser
80 85 90
Leu Arg Leu Pro Arg Leu Leu Leu Asp Leu Ser His Asn Ser
95 100 105
Leu Leu Ala Leu Glu Pro Gly Ile Leu Asp Thr Ala Asn Val Glu

110	115	120
Ala Leu Arg Leu Ala Gly Leu Gly Leu Gln Gln Leu Asp Glu Gly		
125	130	135
Leu Phe Ser Arg Leu Arg Asn Leu His Asp Leu Asp Val Ser Asp		
140	145	150
Asn Gln Leu Glu Arg Val Pro Pro Val Ile Arg Gly Leu Arg Gly		
155	160	165
Leu Thr Arg Leu Arg Leu Ala Gly Asn Thr Arg Ile Ala Gln Leu		
170	175	180
Arg Pro Glu Asp Leu Ala Gly Leu Ala Ala Leu Gln Glu Leu Asp		
185	190	195
Val Ser Asn Leu Ser Leu Gln Ala Leu Pro Gly Asp Leu Ser Gly		
200	205	210
Leu Phe Pro Arg Leu Arg Leu Leu Ala Ala Ala Arg Asn Pro Phe		
215	220	225
Asn Cys Val Cys Pro Leu Ser Trp Phe Gly Pro Trp Val Arg Glu		
230	235	240
Ser His Val Thr Leu Ala Ser Pro Glu Glu Thr Arg Cys His Phe		
245	250	255
Pro Pro Lys Asn Ala Gly Arg Leu Leu Leu Glu Leu Asp Tyr Ala		
260	265	270
Asp Phe Gly Cys Pro Ala Thr Thr Thr Ala Thr Val Pro Thr		
275	280	285
Thr Arg Pro Val Val Arg Glu Pro Thr Ala Leu Ser Ser Ser Leu		
290	295	300
Ala Pro Thr Trp Leu Ser Pro Thr Ala Pro Ala Thr Glu Ala Pro		
305	310	315
Ser Pro Pro Ser Thr Ala Pro Pro Thr Val Gly Pro Val Pro Gln		
320	325	330
Pro Gln Asp Cys Pro Pro Ser Thr Cys Leu Asn Gly Gly Thr Cys		
335	340	345
His Leu Gly Thr Arg His His Leu Ala Cys Leu Cys Pro Glu Gly		
350	355	360
Phe Thr Gly Leu Tyr Cys Glu Ser Gln Met Gly Gln Gly Thr Arg		
365	370	375
Pro Ser Pro Thr Pro Val Thr Pro Arg Pro Pro Arg Ser Leu Thr		
380	385	390
Leu Gly Ile Glu Pro Val Ser Pro Thr Ser Leu Arg Val Gly Leu		
395	400	405

Gln Arg Tyr Leu Gln Gly Ser Ser Val Gln Leu Arg Ser Leu Arg
410 415 420

Leu Thr Tyr Arg Asn Leu Ser Gly Pro Asp Lys Arg Leu Val Thr
425 430 435

Leu Arg Leu Pro Ala Ser Leu Ala Glu Tyr Thr Val Thr Gln Leu
440 445 450

Arg Pro Asn Ala Thr Tyr Ser Val Cys Val Met Pro Leu Gly Pro
455 460 465

Gly Arg Val Pro Glu Gly Glu Ala Cys Gly Glu Ala His Thr
470 475 480

Pro Pro Ala Val His Ser Asn His Ala Pro Val Thr Gln Ala Arg
485 490 495

Glu Gly Asn Leu Pro Leu Leu Ile Ala Pro Ala Leu Ala Ala Val
500 505 510

Leu Leu Ala Ala Leu Ala Ala Val Gly Ala Ala Tyr Cys Val Arg
515 520 525

Arg Gly Arg Ala Met Ala Ala Ala Gln Asp Lys Gly Gln Val
530 535 540

Gly Pro Gly Ala Gly Pro Leu Glu Leu Glu Gly Val Lys Val Pro
545 550 555

Leu Glu Pro Gly Pro Lys Ala Thr Glu Gly Gly Glu Ala Leu
560 565 570

Pro Ser Gly Ser Glu Cys Glu Val Pro Leu Met Gly Phe Pro Gly
575 580 585

Pro Gly Leu Gln Ser Pro Leu His Ala Lys Pro Tyr Ile
590 595

<210> 70
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 70
ccctccactg cccccacggac tg 22

<210> 71
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 71
cggttctggg gacgttaggg ctcg 24

<210> 72
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 72
ctgcccaccc tccacactgcc tcaat 25

<210> 73
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 73
aggactgccc accgtccacc tgccctcaatg ggggcacatg ccacc 45

<210> 74
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide Probe

<400> 74
acgcaaagcc ctacatctaa gccagagaga gacagggcag ctggg 45

<210> 75
<211> 1077
<212> DNA
<213> Homo Sapien

<400> 75
ggcactagga caaccttctt cccttctgca ccactgccc 50
cgccccgcca cctccttgct accccactct tgaaaaccaca gctgttggca 100
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gactccgatg tgacagaggt gatgtggcaa ccagcttta ggcgtggag 550
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caggtggtgt ctcgagaagg ccaaggaagg caggagactc tattccgatg 700
tataagaagt atgcctcccc acccgaccg gcctacaac agctgctata 750
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agggaatgtg caggaacaga ggcatttcc tgggtttggc tccccgttcc 1000
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cttgcttctg ttccccatgg agctccg 1077

<210> 76
<211> 250
<212> PRT
<213> Homo Sapien

<400> 76
Met Pro Ala Ser Ser Pro Phe Leu Leu Ala Pro Lys Gly Pro Pro
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Gly Asn Met Gly Gly Pro Val Arg Glu Pro Ala Leu Ser Val Ala
20 25 30
Leu Trp Leu Ser Trp Gly Ala Ala Leu Gly Ala Val Ala Cys Ala
35 40 45
Met Ala Leu Leu Thr Gln Gln Thr Glu Leu Gln Ser Leu Arg Arg
50 55 60
Glu Val Ser Arg Leu Gln Gly Thr Gly Gly Pro Ser Gln Asn Gly
65 70 75
Glu Gly Tyr Pro Trp Gln Ser Leu Pro Glu Gln Ser Ser Asp Ala
80 85 90
Leu Glu Ala Trp Glu Asn Gly Glu Arg Ser Arg Lys Arg Arg Ala
95 100 105
Val Leu Thr Gln Lys Gln Lys Lys Gln His Ser Val Leu His Leu
110 115 120

Val	Pro	Ile	Asn	Ala	Thr	Ser	Lys	Asp	Asp	Ser	Asp	Val	Thr	Glu
125								130					135	
Val	Met	Trp	Gln	Pro	Ala	Leu	Arg	Arg	Gly	Arg	Gly	Leu	Gln	Ala
140								145					150	
Gln	Gly	Tyr	Gly	Val	Arg	Ile	Gln	Asp	Ala	Gly	Val	Tyr	Leu	Leu
155								160					165	
Tyr	Ser	Gln	Val	Leu	Phe	Gln	Asp	Val	Thr	Phe	Thr	Met	Gly	Gln
170								175					180	
Val	Val	Ser	Arg	Glu	Gly	Gln	Gly	Arg	Gln	Glu	Thr	Leu	Phe	Arg
185								190					195	
Cys	Ile	Arg	Ser	Met	Pro	Ser	His	Pro	Asp	Arg	Ala	Tyr	Asn	Ser
200								205					210	
Cys	Tyr	Ser	Ala	Gly	Val	Phe	His	Leu	His	Gln	Gly	Asp	Ile	Leu
215								220					225	
Ser	Val	Ile	Ile	Pro	Arg	Ala	Arg	Ala	Lys	Leu	Asn	Leu	Ser	Pro
230								235					240	
His	Gly	Thr	Phe	Leu	Gly	Phe	Val	Lys	Leu					
245								250						

<210> 77

<211> 2849

<212> DNA

<213> Homo Sapien

<400> 77

cactttctcc ctcttccct ttactttcga gaaaccgcgc ttccgcttct 50

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gggggggacc tgtggctgct cgtaccgccc cccaccctcc tcttctgcac 150

tgcgttctc cggaagacct tttccctgc tctgtttct tcaccgagtc 200

tgtgcattcgcc cccggacctg gccgggagga ggcttgcccg gcgggagatg 250

ctcttaggggc ggcgcgggag gagcggccgg cggacggag ggcccggcag 300

gaagatgggc tcccggtggac agggactctt gctggcgatc tgcctgctcc 350

ttgcctttgc ctctggcttg gtctgagtc gtgtgcggca tgtccagggg 400

gaacagcagg agtgggaggg gactgaggag ctgccgtcgc ctccggacca 450

tgcgtggagg gctgaagaac aacatgaaaa atacaggccc agtcaggacc 500

aggggctccc tgcttcccg tgcttgcgt gctgtgaccc cggtaacctcc 550

atgtacccgg cgaccgcgt gccccagatc aacatcacta tcttgaaagg 600

ggagaagggt gaccgcggag atcgaggct ccaaggaaa tatggcaaaa 650

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<210> 78

<211> 281

<212> PRT

<213> Homo Sapien

<400> 78

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Leu	Ala	Phe	Ala	Ser	Gly	Leu	Val	Leu	Ser	Arg	Val	Pro	His	Val
				20				25				30		

Gln	Gly	Glu	Gln	Gln	Glu	Trp	Glu	Gly	Thr	Glu	Glu	Leu	Pro	Ser
				35				40				45		

Pro	Pro	Asp	His	Ala	Glu	Arg	Ala	Glu	Glu	Gln	His	Glu	Lys	Tyr
			50					55				60		

Arg	Pro	Ser	Gln	Asp	Gln	Gly	Leu	Pro	Ala	Ser	Arg	Cys	Leu	Arg
			65					70				75		

Cys	Cys	Asp	Pro	Gly	Thr	Ser	Met	Tyr	Pro	Ala	Thr	Ala	Val	Pro
			80				85					90		

Gln	Ile	Asn	Ile	Thr	Ile	Leu	Lys	Gly	Glu	Lys	Gly	Asp	Arg	Gly
			95				100				105			

Asp Arg Gly Leu Gln Gly Lys Tyr Gly Lys Thr Gly Ser Ala Gly

110	115	120
Ala Arg Gly His Thr Gly Pro Lys Gly Gln Lys Gly Ser Met Gly		
125	130	135
Ala Pro Gly Glu Arg Cys Lys Ser His Tyr Ala Ala Phe Ser Val		
140	145	150
Gly Arg Lys Lys Pro Met His Ser Asn His Tyr Tyr Gln Thr Val		
155	160	165
Ile Phe Asp Thr Glu Phe Val Asn Leu Tyr Asp His Phe Asn Met		
170	175	180
Phe Thr Gly Lys Phe Tyr Cys Tyr Val Pro Gly Leu Tyr Phe Phe		
185	190	195
Ser Leu Asn Val His Thr Trp Asn Gln Lys Glu Thr Tyr Leu His		
200	205	210
Ile Met Lys Asn Glu Glu Val Val Ile Leu Phe Ala Gln Val		
215	220	225
Gly Asp Arg Ser Ile Met Gln Ser Gln Ser Leu Met Leu Glu Leu		
230	235	240
Arg Glu Gln Asp Gln Val Trp Val Arg Leu Tyr Lys Gly Glu Arg		
245	250	255
Glu Asn Ala Ile Phe Ser Glu Glu Leu Asp Thr Tyr Ile Thr Phe		
260	265	270
Ser Gly Tyr Leu Val Lys His Ala Thr Glu Pro		
275	280	

<210> 79
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 79
tacaggccca gtcaggacca gggg 24

<210> 80
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 80
ctgaagaagt agaggccggg cacg 24

<210> 81

<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 81
cccggtgctt gcgctgctgt gaccccggtta cctccatgtt cccgg 45

<210> 82
<211> 2284
<212> DNA
<213> Homo Sapien

<400> 82
gcggaggcatc cgctgcggtc ctgcggaga ccccccgcgcg gattcgccgg 50
tccttccgc gggcgcgaca gagctgtcct cgcacctggta tggcagcagg 100
ggcgcggggg tcctctcgac gccagagaga aatctcatca tctgtgcagc 150
cttcttaaag caaactaaga ccagagggag gattatcctt gacctttgaa 200
gaccaaaact aaactgaat ttaaaatgtt cttcgaaaaa gaaggagct 250
tgacttacac tttggtaata atttgcttcc tgacactaag gctgtctgct 300
agtcaaaatt gcctcaaaaaa gagtcttagaa gatgttgtca ttgacatcca 350
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aattaaatat ttgaataaaat cttttgttac tcaa 2284

<210> 83

<211> 431

<212> PRT

<213> Homo Sapien

<400> 83

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Ile	Cys	Phe	Leu	Thr	Leu	Arg	Leu	Ser	Ala	Ser	Gln	Asn	Cys	Leu
20									25					30
Lys	Lys	Ser	Leu	Glu	Asp	Val	Val	Ile	Asp	Ile	Gln	Ser	Ser	Leu
35									40					45
Ser	Lys	Gly	Ile	Arg	Gly	Asn	Glu	Pro	Val	Tyr	Thr	Ser	Thr	Gln
50									55					60
Glu	Asp	Cys	Ile	Asn	Ser	Cys	Cys	Ser	Thr	Lys	Asn	Ile	Ser	Gly
65									70					75
Asp	Lys	Ala	Cys	Asn	Leu	Met	Ile	Phe	Asp	Thr	Arg	Lys	Thr	Ala
80									85					90
Arg	Gln	Pro	Asn	Cys	Tyr	Leu	Phe	Phe	Cys	Pro	Asn	Glu	Glu	Ala
95									100					105
Cys	Pro	Leu	Lys	Pro	Ala	Lys	Gly	Leu	Met	Ser	Tyr	Arg	Ile	Ile
110									115					120
Thr	Asp	Phe	Pro	Ser	Leu	Thr	Arg	Asn	Leu	Pro	Ser	Gln	Glu	Leu
125									130					135
Pro	Gln	Glu	Asp	Ser	Leu	Leu	His	Gly	Gln	Phe	Ser	Gln	Ala	Val
140									145					150
Thr	Pro	Leu	Ala	His	His	His	Thr	Asp	Tyr	Ser	Lys	Pro	Thr	Asp
155									160					165
Ile	Ser	Trp	Arg	Asp	Thr	Leu	Ser	Gln	Lys	Phe	Gly	Ser	Ser	Asp
170									175					180
His	Leu	Glu	Lys	Leu	Phe	Lys	Met	Asp	Glu	Ala	Ser	Ala	Gln	Leu
185									190					195
Leu	Ala	Tyr	Lys	Glu	Lys	Gly	His	Ser	Gln	Ser	Ser	Gln	Phe	Ser
200									205					210
Ser	Asp	Gln	Glu	Ile	Ala	His	Leu	Leu	Pro	Glu	Asn	Val	Ser	Ala
215									220					225
Leu	Pro	Ala	Thr	Val	Ala	Val	Ala	Ser	Pro	His	Thr	Thr	Ser	Ala
230									235					240
Thr	Pro	Lys	Pro	Ala	Thr	Leu	Leu	Pro	Thr	Asn	Ala	Ser	Val	Thr
245									250					255
Pro	Ser	Gly	Thr	Ser	Gln	Pro	Gln	Leu	Ala	Thr	Thr	Ala	Pro	Pro
260									265					270
Val	Thr	Thr	Val	Thr	Ser	Gln	Pro	Pro	Thr	Thr	Leu	Ile	Ser	Thr
275									280					285
Val	Phe	Thr	Arg	Ala	Ala	Ala	Thr	Leu	Gln	Ala	Met	Ala	Thr	Thr
290									295					300
Ala	Val	Leu	Thr	Thr	Thr	Phe	Gln	Ala	Pro	Thr	Asp	Ser	Lys	Gly

305 310 315

Ser Leu Glu Thr Ile Pro Phe Thr Glu Ile Ser Asn Leu Thr Leu
320 325 330

Asn Thr Gly Asn Val Tyr Asn Pro Thr Ala Leu Ser Met Ser Asn
335 340 345

Val Glu Ser Ser Thr Met Asn Lys Thr Ala Ser Trp Glu Gly Arg
350 355 360

Glu Ala Ser Pro Gly Ser Ser Ser Gln Gly Ser Val Pro Glu Asn
365 370 375

Gln Tyr Gly Leu Pro Phe Glu Lys Trp Leu Leu Ile Gly Ser Leu
380 385 390

Leu Phe Gly Val Leu Phe Leu Val Ile Gly Leu Val Leu Leu Gly
395 400 405

Arg Ile Leu Ser Glu Ser Leu Arg Arg Lys Arg Tyr Ser Arg Leu
410 415 420

Asp Tyr Leu Ile Asn Gly Ile Tyr Val Asp Ile
425 430

<210> 84
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 84
agggaggatt atccttgacc tttgaagacc 30

<210> 85
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 85
gaagcaagtgc cccagctc 18

<210> 86
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 86
cggtccctgc ctctttgg 18

<210> 87
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 87
caccgtagct gggagcgac tcac 24

<210> 88
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 88
agtgttaagtc aagctccc 18

<210> 89
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 89
gcttcctgac actaaggctg tctgtagtc agaattgcct caaaaagag 49

<210> 90
<211> 957
<212> DNA
<213> Homo Sapien

<400> 90
cctggaagat gcgcatttgc gctggggcc tgctcaaggt ggtttcg 50
gtcttcgcct ctttgttgc ctggattcg gggtacctgc tcgcagagct 100
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aacagatatt ctggctggcc tgcagagatc cagatagaag gctgcataacc 700
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aaaaaaaa 957

<210> 91
<211> 235
<212> PRT
<213> Homo Sapien

<400> 91
Met Arg Pro Leu Ala Gly Gly Leu Leu Lys Val Val Phe Val Val
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Phe Ala Ser Leu Cys Ala Trp Tyr Ser Gly Tyr Leu Leu Ala Glu
20 25 30
Leu Ile Pro Asp Ala Pro Leu Ser Ser Ala Ala Tyr Ser Ile Arg
35 40 45
Ser Ile Gly Glu Arg Pro Val Leu Lys Ala Pro Val Pro Lys Arg
50 55 60
Gln Lys Cys Asp His Trp Thr Pro Cys Pro Ser Asp Thr Tyr Ala
65 70 75
Tyr Arg Leu Leu Ser Gly Gly Arg Ser Lys Tyr Ala Lys Ile
80 85 90
Cys Phe Glu Asp Asn Leu Leu Met Gly Glu Gln Leu Gly Asn Val
95 100 105
Ala Arg Gly Ile Asn Ile Ala Ile Val Asn Tyr Val Thr Gly Asn
110 115 120
Val Thr Ala Thr Arg Cys Phe Asp Met Tyr Glu Gly Asn Ser
125 130 135
Gly Pro Met Thr Lys Phe Ile Gln Ser Ala Ala Pro Lys Ser Leu
140 145 150
Leu Phe Met Val Thr Tyr Asp Asp Gly Ser Thr Arg Leu Asn Asn
155 160 165

Asp Ala Lys Asn Ala Ile Glu Ala Leu Gly Ser Lys Glu Ile Arg
170 175 180

Asn Met Lys Phe Arg Ser Ser Trp Val Phe Ile Ala Ala Lys Gly
185 190 195

Leu Glu Leu Pro Ser Glu Ile Gln Arg Glu Lys Ile Asn His Ser
200 205 210

Asp Ala Lys Asn Asn Arg Tyr Ser Gly Trp Pro Ala Glu Ile Gln
215 220 225

Ile Glu Gly Cys Ile Pro Lys Glu Arg Ser
230 235

<210> 92

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 92

aatgtgacca ctggactccc 20

<210> 93

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 93

aggcttggaa ctcccttc 18

<210> 94

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 94

aagattcttg agcgattcca gctg 24

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